AUTODOME IP starlight 7000i

- Starlight technology with excellent low-light performance and High dynamic range of 120 dB to see detail in difficult light conditions
- Incorporates the latest H.265 video compression technology to reduce bandwidth and storage requirements
- Built-in Intelligent Video Analytics alert operators in case of unusual scene activity
- Edge intelligence with Intelligent Tracking and object detection even when the camera is moving
- Exceptional reliability with 3-year warranty (including on moving parts)

The AUTODOME IP starlight 7000i camera incorporates the latest in Video Analytics, starlight technology, and video streaming. With starlight imaging technology for excellent low-light sensitivity and the most robust Intelligent Video Analytics on the market, the camera delivers unmatched picture quality. Even under the most challenging light conditions, the 30x PTZ dome camera delivers high-definition (HD) 1080p video. Easy to install, the camera is available in either a field-proven, outdoor pendant housing or an indoor, in-ceiling housing.

Functions

Exceptional low-light performance
The latest sensor technology combined with the sophisticated noise suppression results in an exceptional sensitivity in color. The low-light performance is so good that the camera continues to provide excellent color performance even with a minimum of ambient light.

High dynamic range
The dynamic range of the camera is outstanding and is obvious in real-world performance comparisons. In extended dynamic range mode, the camera uses an electronic shutter to capture four images with different exposure time and reproduce a high-contrast frame. The result is that you can view details in both the bright areas (highlights) and the dark areas (shadows) of a scene at the same time. You can easily distinguish objects and features (for example, faces) with bright backlight.

H.265 high-efficiency video encoding
The camera is designed on the most efficient and powerful H.264 and H.265/HEVC encoding platform. The camera is capable of delivering high-quality and high-resolution video with very low network load. With a doubling of encoding efficiency, H.265 is the compression standard of choice for IP video surveillance systems.

Snap to zoom
Drawing a box in the image will trigger the camera to zoom to the correct position.

Intelligent Video Analytics on the edge
With built-in video content analysis (VCA), the camera reinforces the Intelligence-at-the-Edge concept where edge devices become increasingly intelligent.
The camera comes with the state-of-the-art VCA method by Bosch, Intelligent Video Analytics, that reliably detects, and analyzes moving objects while suppressing unwanted alarms from spurious sources in the image.

With this method, the camera is able to detect idle and removed objects as well as loitering, multiple line crossing, and trajectories. This method also supports BEV (Bird's Eye View) People counting.

Video Analytics while camera is moving
Outside of pre-positions and even while the PTZ camera is moving, whether on guard tours or manually, the Intelligent Video Analytics application can detect and start alarms when objects are in alarm fields. These alarm fields are defined once across all PTZ camera views. The camera can automatically trigger an alarm if any part of a field within the camera's view becomes active while on a guard tour sweeping across the monitored areas.

Intelligent Tracking
The camera utilizes the built-in Intelligent Video Analytics to follow an individual or an object continuously.
When Intelligent Video Analytics detects objects while the camera is in a stationary position, the camera activates the Intelligent Tracking feature. This feature controls the pan/tilt/zoom actions of the camera to track the objects and keep them in view in the scene. The new Intelligent Tracking is based on robust flow detection algorithms which can reliably track moving objects even under challenging scenes.
The tracking and detection reliability can be enhanced further with virtual masking for scenes with a lot of background motion such as trees or other objects creating constant motion in the scene.
Auto mode: When configured in this mode, the camera actively analyzes the video to detect any moving object. If it detects movement, it begins to track the object. This mode is most useful for scenarios where normally no motion is expected.
One Click mode: In this mode, users can click an object moving in the live video image to enable the camera to track the movement of the selected object. This mode is most useful for scenarios where normal scene activity is expected.

Camera Trainer
Based on examples of target objects and non-target objects, the Camera Trainer program uses machine learning to allow the user to define objects of interest and generate detectors for them. In contrast to the moving objects that the Intelligent Video Analytics application detects, the Camera Trainer program detects both moving and non-moving objects and classifies them immediately. Using Configuration Manager, you can configure the Camera Trainer program using both live video as well as recordings available through the respective camera. The resulting detectors can be downloaded and uploaded for distribution to other cameras.

Intelligent streaming reduces bandwidth and storage requirements
The low-noise image and the efficient H.265 compression technology provide clear images while reducing bandwidth and storage by up to 80% compared to standard H.264 cameras. With this new generation of cameras an extra level of intelligence is added with Intelligent Streaming. The camera provides the most usable image possible by cleverly optimizing the detail-to-bandwidth ratio. The smart encoder continuously scans the complete scene as well as regions of the scene and dynamically adjust compression based on relevant information like movement. Together with Intelligent Dynamic Noise Reduction, which actively analyzes the contents of a scene and reduces noise artifacts accordingly, bitrates are reduced by up to 80%. Because noise is reduced at the source during image capture, the lower bitrate does not compromise image quality. This results in substantially lower storage costs and network strain and still retain a high image quality and smooth motion.

Image Stabilization
As PTZ cameras continue to increase their optical zoom capabilities, image stabilization becomes critical to eliminate movement caused by unstable camera mounts. Minor movement of the camera mount can shift the field of view by a large distance when the camera is zoomed to a high value. This can render images unusable. The camera incorporates an Image Stabilization algorithm; when turned on, the camera detects continuous vibration. If it detects vibration, the camera dynamically corrects the shaky video in both the vertical and horizontal axis, resulting in improved image clarity and a stable field of view on the monitor.

Auto Exposure (AE) region and Focus region
With the Auto Exposure (AE) function, the camera computes the lighting condition of the entire scene. Then the camera determines the optimum level of iris, gain, and shutter speed.
In AE region mode, users can designate a specified area of the scene, based on pre-positions. The camera computes the lighting condition of the specified area. Then the camera determines the optimum level of iris, gain, and shutter speed to get an image.
Focus region mode, unlike normal auto focus mode, allows users to focus on a specified area of the scene. Users have the ability to customize these modes, if necessary, for the specific requirements of the site.

Simple set-up
The camera has a very intuitive user interface that allows fast and easy configuration. Configurable scene modes are provided with the best settings for a variety of applications.

- **Standard**

This mode is optimized for most standard scenes both indoor and outdoor.

- **Color Only (Traffic)**

In this mode, the camera does not switch to monochrome mode at low light levels. The mode is optimized to minimize motion artifacts and to capture the color of vehicles/pedestrians and traffic lights, even at night, for scenarios such as city surveillance and traffic monitoring.

- Indoor

This mode is ideal for indoor applications where lighting is constant and does not change. Auto white balance will be mainly focused on low color temperature 3200K.

- **Sensitivity boost**

This mode provides maximum sensitivity in low light scenes by using longer exposure times, resulting in bright images even in extreme low light.

- **Fast movement**

This mode is used for monitoring fast moving objects like cars in traffic scenes. Motion artifacts are minimized and the image is optimized for a sharp and detailed picture in color and monochrome.

- Vibrant

This mode provides a more vivid image with increased contrast, sharpness, and saturation.

DORI coverage

DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The maximum distance at which a camera/lens combination can meet these criteria is shown below:
The nylon bubble material is required to meet the IK10 shock rating. The optical characteristics of nylon compared to the standard acrylic bubble affect the resolution and sharpness of the video image.
For the camera to give the best image that fits your application, consider the important limitations in the table that follows:

DORI	Distance to object (30x optical zoom)			
	Standard bubble (acrylic)		IK10 bubble (nylon)	
	WIDE 1X	TELE 30X	TELE 30 X	Scene width
Detection 25 px/m (8 px/ft)	61 m (200 ft)	1913 m (6276 ft)	1200 m (3937 ft)	77 m (253 ft)
Observation 63 px/m (19 px/ft)	24 m (79 ft)	765 m (2510 ft)	600 m (1969 ft)	31 m (102 ft)
Recognition 125 px/m (38 px/ft)	12 m (39 ft)	383 m (1257 ft)	300 m (984 ft)	15 m (49 ft)
Identification 250 px/m (76 px/ft)	6 m (20 ft)	191 m (627 ft)	191 m (627 ft)	8 m (26 ft)

Sophisticated alarm responses

The camera supports advanced alarm control that uses sophisticated rules-based logic to determine how to manage alarms. In its most basic form, a “rule” could define which input(s) should activate which output(s). In a more complex form, inputs and outputs can be combined with pre-defined or user-specified commands to perform advanced camera functions.

Pre-positions and tours

The camera supports 256 pre-positions and two styles of Guard Tours: Pre-position and Record/Playback. The Pre-position tour has capability for up to 256 pre-positions with a configurable dwell time between pre-positions and can be customized as to the order and the frequency that each Pre-position is visited. The camera also provides support for two (2) recorded tours, which have a total duration of 15 minutes of movements. These are recorded macros of an operator’s movements, including pan, tilt, and zoom activities, and can be played back in a continuous manner.

Data security

Special measures are necessary to ensure the highest level of security for device access and data transport. On initial setup, the camera is only accessible over secure channels. You must set a service-level password in order to access camera functions.
Web browser and viewing client access can be protected using HTTPS or other secure protocols that support state-of-the-art TLS 1.2 protocol with updated cipher suites including AES encryption with 256 bit keys. No software can be installed in the camera, and only authenticated firmware can be uploaded. A three-level password protection with security recommendations allows users to customize device access. Network and device access can be protected using 802.1x network authentication with EAP/TLS protocol. Superior protection from malicious attacks is guaranteed by the Embedded Login Firewall, on-board Trusted Platform Module (TPM) and Public Key Infrastructure (PKI) support.
The advanced certificate handling offers:

- Self-signed unique certificates automatically created when required
- Client and server certificates for authentication
- Client certificates for proof of authenticity
- Certificates with encrypted private keys

Power options

The camera can be powered by one of the devices in the list that follows:

- a 30 W (IEEE 802.3at) midspan
- a 30 W network switch
- a 60 W midspan

In a PoE configuration, a single (Cat5e/Cat6e) cable connection provides power while simultaneously supporting data and video transmission. For maximum reliability, the camera can operate in a redundant configuration, with both a 24 VAC power source and a midspan or a switch connected simultaneously. If either power source fails, the camera switches automatically to the other power source. The camera can also accept a standard 24 VAC power source if a PoE network interface will not be used.
For pendant models used in outdoor applications that require heaters, a 60 W Bosch midspan or a 60 W switch is required to power both the camera and its internal heaters.
For in-ceiling or indoor pendant applications that do not require heater power, a standard 30 W (IEEE 802.3at) midspan or a 30 W switch can be used to power the camera.

System integration and ONVIF conformance
The camera conforms to the ONVIF (Open Network Video Interface Forum) specification which guarantees interoperability between network video products regardless of manufacturer. The ONVIF Profile S specification allows easy integration with other conformant devices and VMS. ONVIF conformant devices are able to exchange live video, audio, metadata, and control information, and ensure that they are automatically discovered and connected to network applications such as video management systems.

PTZ drive and mechanism
The camera offers a reliable drive platform, designed for continuous tours for at least three years. It provides an unlimited three-year warranty. Its design provides optimum smoothness in motion when used at low speeds or with a joystick.
Pan and tilt preset repeatability are accurate to within ±0.1 degrees to ensure that the correct scene is captured every time. The camera delivers variable pan/tilt speeds from a crawl speed of only 0.1 degrees per second to a full 400 degrees per second. The camera is capable of pan speeds of 400 degrees per second and tilt speeds of 300 degrees per second between pre-positions. The camera provides a tilt angle 18 degrees above the horizon, and a pan range of up to 360 degrees continuous rotation.

Design for challenging environments
Pendant housings are rated to provide IP66 protection and offer an operating temperature range down to -40 °C (-40 °F). The pendant model comes fully assembled with a sunshield which can be easily removed for use in indoor applications. In addition, both pendant and in-ceiling camera models have a high-resolution acrylic bubble for enhanced image clarity.

Ease of installation and servicing
The camera has been designed for quick and easy installation, a key feature from Bosch IP video products. All housings feature recessed screws and latches for increased tamper resistance.
Bosch offers a full complement of hardware and accessories (sold separately) for wall, corner, mast, roof, and pipe mount for indoor and outdoor environments, which allow the camera to be adapted easily to individual site requirements.
Remotely upgrade the camera whenever new firmware becomes available. This ensures up-to-date products, thus protecting investment with little effort.

Fiber Optic Kit
Bosch offers the optional VG4-SFPSCKT, a unique media converter module for use with various Bosch devices. This media converter module is designed to accept a wide-range of 10/100 Mbps SFP modules for use with Multimode or Single-mode optical fiber with LC or SC connectors.
The media converter module along with the SFP module is user-installed directly into the camera‘s power supply box to provide an integrated fiber optic solution.

Camera Diagnostics
The camera has several built-in sensors / advanced diagnostics that display warnings on the camera’s OSD about the health of the camera. The diagnostics log records the events such as:
- Low voltage - a drop in incoming power below the level where the camera becomes non-functional
- High temperature - the internal temperature exceeds specifications
- Low temperature - the internal temperature exceeds minimum levels
- High humidity - the internal humidity exceeds 70%
- Total hours of camera operation

Certain events also appear on the camera’s OSD. These diagnostic records are available for the installation or service technician to review.

Certifications and approvals

For a full list of all related certifications/standards, refer to the Product Tests Report, available on the online catalog, on the Documents tab of the product page for your device. If the document is unavailable on the product page, contact your sales representative.

Electromagnetic compatibility (EMC)	FCC Part 15, ICES-003 EN 55024:2010 + A1:2015 EN 55032:2015/AC:2016
Product Safety	Complies with UL, CE, CSA, EN, and IEC standards including: UL 62368-1 EN 62368-1 EN 60950-1

	CAN/CSA-C22.2 No. 62368-1-14 IEC 62368-1 Ed.2 IEC 60950-1 Ed.2 IEC 60950-22 Ed.2
Marks	UL, CE, WEEE, RCM, EAC, VCCI, FCC, RoHS

Region	Regulatory compliance/quality marks	
Europe	CE	Declaration of Conformity (DoC) - AUTODOME IP starlight 7000i
USA	UL	62368
	UL	60950

Installation/configuration notes

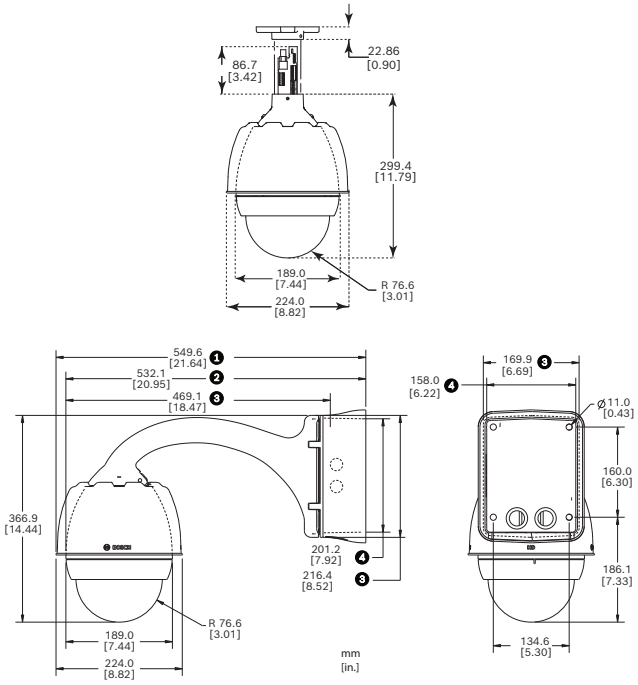

Fig. 1: Dimensions, AUTODOME7000 pipe mount, pendant mount

1 Power supply box and sunshield
2 Sunshield removed
3 Mounting plate
4 Power supply box

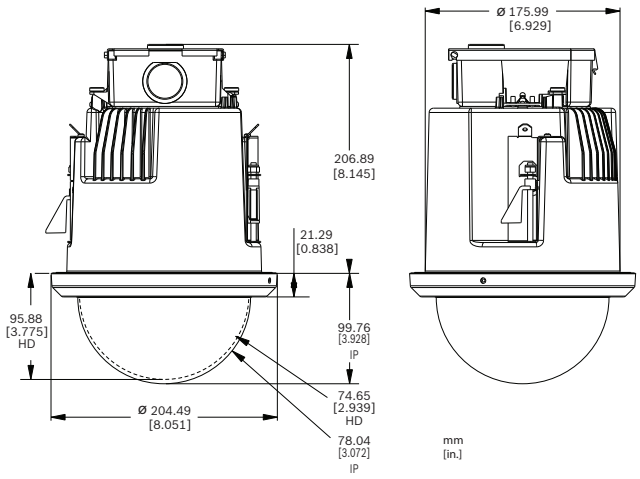

Fig. 2: AUTODOME 7000 series In-ceiling

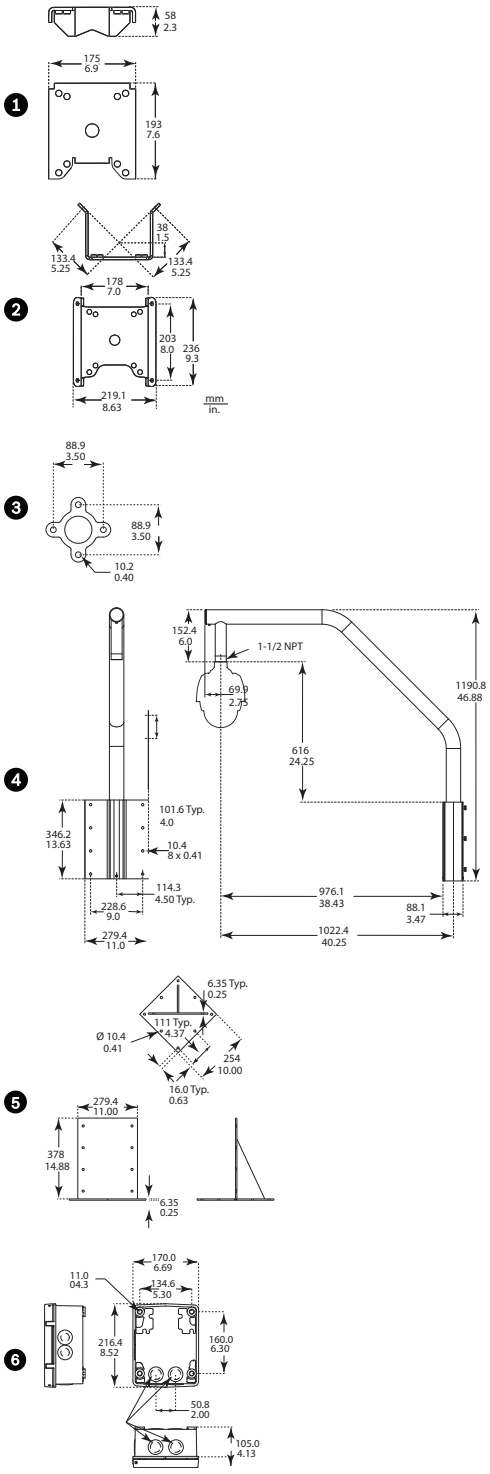

Fig. 3: AUTODOME 7000 series Optional Mounts

1 Pole (Mast) Mount
2 Corner Mount
3 Pipe Mount
4 Roof Mount
5 Roof Mount Adapter
6 Power Supply for Pipe and Roof Mounts

Technical specifications

AUTODOME IP starlight 7000i

Imager	1/2.8 in. CMOS sensor
Effective Picture Elements (Pixels)	1944 x 1212 (2.35 MP)
Lens	30x motorized Zoom 4.3 mm to 129 mm F1.6 to F4.7
Field of View (FOV)	2.3° to 64.7°
Focus	Automatic with manual override
Iris	Automatic with manual override
Digital Zoom	12x
Day/Night switch	Automatic IR cut filter

Video performance - Sensitivity	
(3100K, reflectivity 89%, 1/30, F1.6, 30 IRE)	
Color	0.0077 lx
Monochrome	0.0008 lx

Video performance - Dynamic range	
High dynamic range	120 dB WDR
Measured according to IEC 62676 Part 5	100 dB WDR

Gain control	AGC, Fixed, Region per pre-position
Aperture Correction	Horizontal and vertical
Electronic Shutter Speed (AES)	1/1 sec to 1/30,000 sec (22 steps)
Signal-to-Noise Ratio (SNR)	>55 dB
Backlight compensation (BLC)	On / Off / Intelligent Auto Exposure (IAE)
White balance	2000 K to 10,000 K ATW, AWB Hold, Extended ATW, Manual, Sodium Lamp Auto, Sodium Lamp, indoor, outdoor
Day/Night	Monochrome, Color, Auto

Defog mode feature	Improves visibility when viewing foggy or other low-contrast scenes.
Noise Reduction	Intelligent Dynamic Noise Reduction
Sectors/Title	4, 8, 12, or 16 user-selectable, independent Sectors, each with 20 characters per Title
Privacy Masks	32 individually configurable Privacy Masks; maximum 8 per Pre-position; programmable with 3, 4 or 5 corners; selectable color of Black, White, Gray, “Auto” (average background color)
Virtual Masking	24 individually configurable Virtual Masks to hide parts of the scene (background motion such as moving trees, pulsating lights, busy roads, etc.) which should not be considered for flow analysis to trigger Intelligent Tracking.
Pre-positions	256 Pre-positions, each with 20 characters per Title
Guard Tours	Custom Recorded Tours - two (2), total duration 30 minutes: Pre-position tour - one (1), consisting of up to 256 scenes consecutively, and one (1) customized with up to 64 user-defined scenes
Supported Languages	English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian, Spanish, Japanese, Chinese

Video content analysis

Analysis type	Intelligent Video Analytics
Configurations	Off / Global VCA / Profiles 1 - 16
Calibration	Automatic self-calibrating when height is set
Alarm rules (combinable)	Any object, Object in field, Crossing line, Entering field, Leaving field, Loitering, Following route, Idle object, Removed object, Counter, Occupancy, Crowd detection, Condition change, Similarity search, Tampering
Object filters	Duration, Size, Aspect ratio v/h, Speed, Direction, Object classes (Upright persons, Bikes, Cars, Trucks), Color

Network

Video compression	H.265, H.264, M-JPEG
Streaming	Four (4) streams: Two (2) configurable streams in H.264 or H.265; One (1) I-frames-only stream based on first stream; One (1) M-JPEG Stream
Frame rate	1080p: 30fps; 720p: 60fps
Ethernet	10BASE-T/100BASE-T, auto-sensing, half/full duplex
Encryption	TLS 1.0, TLS 1.1, TLS 1.2, DES, 3DES, AES
Ethernet connector	RJ45
GOP Structure	IP, IBP, IBBP
Data Rate (H.265, 1080P)	61 kbps to 2.8 Mbps (depending on the scene, the frame rate, and the quality settings)
Overall IP Delay	60 fps: 166 ms (typical) 30 fps: 233 ms (typical)
Interoperability	ONVIF Profile S; ONVIF Profile G; ONVIF Profile M; ONVIF Profile T
Protocols	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP, FTP, ARP, DHCP, APIPA (Auto-IP, link local address), NTP (SNTP), SNMP (V1, V3, MIB-II), 802.1x, DNS, DNSv6, DDNS (DynDNS.org, selfHOST.de, no-ip.com), SMTP, iSCSI, UPnP (SSDP), DiffServ (QoS), LLDP, SOAP, Dropbox™, CHAP, digest authentication

Note: Dropbox is a trademark of Dropbox, Inc.

Resolutions (H x V)

1080p HD	1920 x 1080
720p HD	1280 x 720
1.3 MP 5:4 (cropped)	1280x 1024
D1 4:3 (cropped)	704 x 480
640x 480	640 x 480
432p SD	768 x 432
288p SD	512 x 288
144p SD	256 x 144

The table that follows shows the average typical optimized bitrate, in kbits/s, for different frame rates:

FPS	H.264	H.265
30	2470	2060
25	2410	1810

15	1690	1260
8	1090	820
4	670	500
2	420	310
1	260	190

Actual bitrate may vary depending on the scene, picture settings, and encoder profile settings.

Mechanical

	In-Ceiling	Pendant
Pan Range	360° cont.	360° cont.
Tilt Angle	1° above horizon	18° above horizon
Pre-position Speed	Pan: 400°/s Tilt: 300°/s	Pan: 400°/s Tilt: 300°/s
Pan/Tilt Modes		
• Turbo mode (Manual Control)	Pan: 0.1°/s - 400°/s Tilt: 0.1°/s - 300°/s	
• Normal Mode	0.1°/s-120°/s	0.1°/s-120°/s
Pre-position Accuracy	± 0.1° typ.	± 0.1° typ.
Intelligent Tracking Speed	>0.2°/second (minimum)	

Electrical

	In-Ceiling	Pendant
Input voltage	24 VAC 60 W (using the midspan accessory NDP-6001B, required to power the heater) 30 W(IEEE 802.3at, class 4 standard, when used without powering the heater)	
Power Consumption (typical), with heaters		51.0 W / 54.0 VA
Power Consumption (typical)	19.2 W / 33.6 VA (without heaters)	19.2 W / 33.6 VA (heaters off / without heater connected in 24 V power supply box)
Current consumption, 24 VAC		
Current consumption, 60 W		
Redundant configuration (only when using the PoE accessory identified in the Accessories section of the Ordering information on the datasheet)	Connect both a 60 W midspan and a separate 24 VAC power source. If either power source fails, the camera switches automatically to the other power source.	
Surge suppression	Built-in surge suppression for power, data, and network interfaces (Refer to the A&E Specifications for details.)	

Audio

Audio	
- Standard	G.711, 8 kHz sampling rate L16, 16 kHz sampling rate AAC, 16 kHz sampling rate
- Signal-to-Noise Ratio	>50 dB
- Audio Streaming	Bidirectional (full-duplex)

Local Storage

Memory Card Slot	User-supplied full SD card (maximum 2 TB) Note: For this camera, Bosch does not recommend the use of microSD cards or of microSD to SD adapters.
Recording	Continuous recording of video and audio, alarm/ events/schedule recording

Fiber Optic Kit

VG4-SFPSCKT

Description	Fiber Optic Ethernet Media Converter kit [2]. Requires a small form-factor pluggable (SFP) module (sold separately).
Data Interface	Ethernet
Data Rate	100 Mbps IEEE 802.3 Compliant Full Duplex or Half Duplex Electrical Port Full Duplex Optical Port
Compatible Receiver	CNFE2MC
Installation	Installed inside a VG4-A-PA0, VG4-A-PA1, VG4-A-PA2, VG4-A-PSU1, or a VG4-A-PSU2 power supply box with supplied mounting hardware

2. Kit available separately and must be installed inside the AUTODOME power supply box.

SFP Modules

Description	Interchangeable modules available for use with MMF or SMF optical fiber.
Data Interface	Ethernet
Data Rate	100 Mbps IEEE 802.3 Compliant
Weight (all SFP modules)	0.23 kg (0.05 lb)
Dimensions (LxWxH)	SFP-2, SFP-3: 55.5 x 13.5 x 8.5 mm (2.2 x 0.5 x 0.3 in.) SFP-25, SFP-26: 63.8 x 13.5 x 8.5 mm (2.5 x 0.5 x 0.3 in.)

	Type	Connector	Wavelength (transmit / receive)	Max. Distance
SFP-2	MMF	Duplex LC	1310 nm / 1310 nm	2 km (1.2 miles)
SFP-3	SMF	Duplex LC	1310 nm / 1310 nm	20 km (12.4 miles)
SFP-25	MMF	Single SC	1310 nm / 1550 nm	2 km (1.2 miles)
SFP-26	MMF	Single SC	1550 nm / 1310 nm	2 km (1.2 miles)

Fiber Compatibility

Optical Fiber Compatibility, MMF	50/125 µm MMF. For 50/125 µm fiber, subtract 4 dB from the specified optical budget value. Must meet or exceed fiber standard ITU-T G.651.
Optical Fiber Compatibility, SMF	8-10/125 µm SMF. Must meet or exceed fiber standard ITU-T G.652.
Optical Distance Specifications	Specified transmission distances are limited to the optical loss of the fiber and any additional loss introduced by connectors, splices, and patch panels. The modules are designed to operate over the entire optical loss budget range, so they do not require a minimum loss in order to operate.

User Connections

Power, Network	RJ45 100Base-T
Power, Camera	24VAC, 50/60Hz
Alarm Inputs (7)	2 supervised, 5 non-supervised
Alarm Outputs (4)	1 dry contact relay, 3 open collector/transistor outputs Programmable for “normally open” or "normally closed" 32 VDC @ 150 mA maximum
Audio	1 x mono line in, 1 x mono line out Signal line in: 20 kOhm typical, 0.707 Vrms Signal line out: 0.707 Vrms at 16 Ohm, typical

Communications / Software Control

Serial protocols	Bosch OSRD, Pelco P/D, Forward Vision, and Cohu **Note**: A separate license (MVS-FCOM-PRCL) is required.

Environmental

	In-Ceiling	Pendant
Ingress Protection Rating/Standard	IP54, Plenum rated	IP66, NEMA 4X [1]
Operating temperature (with heater wired)	-10 to +40 °C (+14 to +104 °F)	-40 to +55 °C (-40 to +131 °F) -10 to +55 °C (+14 to +131 °F) (without heater wired) Maximum temperature: 74 °C (165 °F) in accordance with NEMA TS 2-2003 (R2008)
Storage temperature	-40 to +60 °C (-40 to +140 °F)	-40 to +60 °C (-40 to +140 °F)
Operating Humidity	0% to 90% RH, (non-condensing)	0% to 100% RH, condensing
Vibration	IEC 60068-2-6	IEC 60068-2-6 NEMA TS2 Section 2.2.8
Shock	IEC 60068-2-27	IEC 60068-2-27 NEMA TS2 Section 2.2.9
Salt Mist Spray (Corrosion Test)		IEC 60068-2-52
External Mechanical Impact		IEC 60068-2-75: IK10 (only models ending in "-K")

1. NEMA 4X for:

-Access to Hazardous parts
-Ingress of solid foreign objects (falling dirt, circulating dust, settling dust)
-Ingress of water (dripping and light splashing, hose down and splashing)

Construction

Dimensions	224 mm (8.8 in.) x 299.4 mm (11.8 in.)
Weight	In-ceiling: 2.6 kg (5.7 lb) Pendant: 3.2 kg (7 lb)
Bubble Size	153.1 mm diameter (6.03 in.)
Construction Material , Housing	In-ceiling: Magnesium Pendant: Cast aluminum
Construction Material , Bubble	In-ceiling: acrylic Pendant: acrylic Pendant (IK10): nylon
Standard Color	White (RAL 9003)
Standard Finish	Powder coated, sand finish

Mounts/Accessories

In-ceiling bubbles	
Clear HD high-resolution acrylic	VGA-BUBHD-CCLA
Tinted HD high-resolution acrylic *(Included with in-ceiling camera models.)*	VGA-BUBHD-CTIA
Pendant bubbles	
Clear high-resolution acrylic *(Included with pendant camera models.)*	VGA-BUBBLE-PCLA
Tinted high-resolution acrylic	VGA-BUBBLE-PTIA
Clear rugged IK10-rated nylon*	VGA-BUBBLE-IK10

*Included with NDP-7512-Z30K

Mounts

Pendant Arm Mounts	
Wall Arms	VG4-A-PA0 (no transformer) VG4-A-PA1 (120 VAC transformer) VG4-A-PA2 (230 VAC transformer)
Pendant Arm with Wiring	VG4-PEND-ARM
Mounting plate for VG4-PEND-ARM	VG4-PEND-WPLATE
Optional Mounting Plates for Arm Mounts	
Corner Mounting Plate	VG4-A-9542
Pole Mounting Plate	VG4-A-9541
Pendant Pipe Mounts	
Pipe Mount Kit	VG4-A-9543
Pendant Roof Mounts	
Roof (Parapet) Mount (VG4-A-9543 Pipe Mount Kit required. Available separately.)	VGA-ROOF-MOUNT (with 1.5-inch NPT tapered male threads)
Optional Mounting Plates for Roof Mounts	
Flat Roof Adapter for Parapet Mount	LTC 9230/01
In-ceiling Support Kits	VGA-IC-SP (Bracket for suspended or drop ceilings)

Ordering information

NDP-7512-Z30 PTZ 2MP HDR 30x clear IP66 pendant
PTZ dome camera; 1080 (2MP) HD, 30x, starlight imaging, H.265, IVA.
Outdoor pendant mount
Order number **NDP-7512-Z30 | F.01U.352.678**

NDP-7512-Z30C PTZ 2MP HDR 30x clear IP54 in-ceiling
PTZ dome camera; 1080 (2MP) HD, 30x, starlight imaging, H.265, IVA.
Indoor, in-ceiling mount, clear bubble
Order number **NDP-7512-Z30C | F.01U.359.800**

NDP-7512-Z30CT PTZ 2MP HDR 30x tinted IP54 in-ceiling
PTZ dome camera; 1080 (2MP) HD, 30x, starlight imaging, H.265, IVA.
Indoor, in-ceiling mount, tinted bubble
Order number **NDP-7512-Z30CT | F.01U.352.677**

NDP-7512-Z30K PTZ 2MP HDR 30x clear IK10 pendant
PTZ dome camera; 1080 (2MP) HD, 30x, starlight imaging, H.265, IVA.
Outdoor pendant mount, IK10
Order number **NDP-7512-Z30K | F.01U.352.676**

Accessories

NPD-6001B Midspan, 60W, single port, AC in
60 W indoor midspan for cameras without illuminators
Order number **NPD-6001B | F.01U.347.358 F.01U.392.458**

NPD-9501-E Midspan 95W 1 port outdoor
95 W outdoor PoE midspan for AUTODOME and MIC cameras
Order number **NPD-9501-E | F.01U.365.279**

NDA-9501-PMA Pole mount adapter for NPD-9501-E
Pole mount adapter for outdoor midspan
Order number **NDA-9501-PMA | F.01U.374.407**

VG4-A-PSU0 Power supply, 24VAC
Power supply, 24 VAC input, for a PTZ camera in the AUTODOME Series. White, aluminum enclosure with cover, rated IP66 and IK 08. 100 W output. Optional trim skirt (sold separately).
Order number **VG4-A-PSU0 | F.01U.261.376**

VG4-A-PSU1 PSU, 120VAC, for AUTODOME, MIC7000
Power supply for AUTODOME 7000, MIC IP cameras without illuminators.
120VAC in, 24VAC out
Order number **VG4-A-PSU1 | F.01U.261.377 F.01U.009.667 F.01U.081.593**

VG4-A-PSU2 Power supply, 230VAC, AUTODOME, MIC7000
Power supply for AUTODOME 7000, MIC IP cameras without illuminators.
230VAC in, 24VAC out
Order number **VG4-A-PSU2 | F.01U.009.668 F.01U.096.639 F.01U.097.433 F.01U.081.604 F.01U.261.378**

VGA-SBOX-COVER Cover for AUTODOME power supply box
Cover for AUTODOME Power Supply Boxes, white
Order number **VGA-SBOX-COVER | F.01U.010.505 F.01U.247.808**

VG4-SFPSCKT Ethernet to SFP interface kit
Ethernet media converter video transmitter/data receiver fiber optic kit for AUTODOME cameras, for MIC-IP-PSU for MIC analog cameras and for the Surveillance cabinets (NDA-U-PA0, NDA-U-PA1 and NDA-U-PA2).
Order number **VG4-SFPSCKT | F.01U.142.529**

SFP-2 Fiber module, multimode, 1310nm, 2LC
SFP Fiber Optic Module, 2 km (1.2 miles), 2 LC connectors.
Multi-mode
1310 mm
Order number **SFP-2 | F.01U.136.537**

SFP-3 Fiber module, single-mode, 1310nm, 2LC
SFP Fiber Optic Module, 20 km (12.4 miles), 2 LC connectors.
Single-mode
1310 nm
Order number **SFP-3 | F.01U.136.538**

SFP-25 Fiber module, 1310/1550nm, 1SC
SFP Fiber Optic Module, 2 km (1.2 miles), 1 SC connector
Multi-mode
1310/1550 nm
Order number **SFP-25 | F.01U.136.541**

SFP-26 Fiber module, 1550/1310nm, 1SC
SFP Fiber Optic Module, 2 km (1.2 miles), 1 SC connector
Multi-mode
1550/1310 nm
Order number **SFP-26 | F.01U.136.542**

VG4-A-PA0 Pendant arm, power box, 24VAC, AUTODOME
Pendant arm mount with power supply box for an AUTODOME Series camera, no transformer, white
Order number **VG4-A-PA0 | F.01U.009.671 F.01U.081.560 F.01U.096.637 F.01U.097.435 F.01U.261.373**

VG4-A-PA1 Pendant arm, power box, 120VAC, AUTODOME
Pendant arm mount with power supply box for an AUTODOME Series camera with a 120 VAC transformer, white
Order number **VG4-A-PA1 | F.01U.081.571 F.01U.009.663 F.01U.261.374**

VG4-A-PA2 Pendant arm, power box, 230VAC, AUTODOME
Pendant arm mount with power supply box for an AUTODOME Series camera with a 230 VAC transformer, white
Order number **VG4-A-PA2 | F.01U.009.664 F.01U.081.582 F.01U.096.638 F.01U.097.431 F.01U.261.375**

VGA-PEND-ARM Pendant arm with wiring, for AUTODOME
Compatible with an AutoDome Series pendant housing
Order number **VGA-PEND-ARM | F.01U.247.810 F.01U.261.947**

VGA-PEND-WPLATE Mounting plate for VGA-PEND-ARM
Mounting plate for VGA-PEND-ARM, compatible with an AutoDome Series camera
Order number **VGA-PEND-WPLATE | F.01U.247.809**

VGA-ROOF-MOUNT Roof parapet mount for AUTODOME series
Roof parapet mount, white
VG5-6xx/7xxx cameras require VG4-A-9543 Pipe Mount (sold separately).
NEZ-5130-/NEZ-5230- cameras require NDA-ADPTR-NPTMET (sold separately)
Order number **VGA-ROOF-MOUNT | F.01U.247.811**

LTC 9230/01 Parapet roof mount adapter
Flat Roof Mount Adapter for mounting a unit in an upright position on a flat surface.
Order number **LTC 9230/01 | F.01U.503.630**

VG4-A-9541 Pole mount adapter
Pole mount adapter for an AUTODOME pendant arm or a DINION imager, designed for poles with a diameter of 100-380 mm (4-15 in.), white
Order number **VG4-A-9541 | F.01U.123.433**

VG4-A-9542 Corner mount adapter for AUTODOME
Corner mount adapter for an AUTODOME pendant arm or a DINION imager
Order number **VG4-A-9542 | F.01U.123.434**

VG4-A-9543 Pipe mount for AUTODOME , white
Pipe mount, white, for an AutoDome Series pendant housing
Order number **VG4-A-9543 | F.01U.009.673**

VGA-IC-SP Suspended ceiling support kit,7"
Suspended ceiling support kit for dome cameras. Aperture Ø177 mm (Ø7 in). Maximum supported weight 11.3 kg (25 lb).
Order number **VGA-IC-SP | F.01U.245.271**

VGA-BUBBLE-PCLA Bubble, pendant, clear
Low-impact acrylic bubble
Order number **VGA-BUBBLE-PCLA | F.01U.247.818**

VGA-BUBBLE-PTIA Bubble, pendant, tinted
Low-impact acrylic bubble
Order number **VGA-BUBBLE-PTIA | F.01U.247.820**

VGA-BUBLRG-CCLA Bubble, in-ceiling, large, clear
High-resolution bubble for AUTODOME in-ceiling cameras, clear
Order number **VGA-BUBLRG-CCLA | F.01U.283.457**

VGA-BUBHD-CTIA Bubble, in-ceiling, tinted
High-resolution acrylic bubble for AUTODOME HD in-ceiling cameras, tinted
Order number **VGA-BUBHD-CTIA | F.01U.281.738**

VGA-BUBBLE-IK10 Bubble, pendant, IK10-rated
IK10-rated bubble qualified for use with AUTODOME 7000 HD cameras with pendant housings
Order number **VGA-BUBBLE-IK10 | F.01U.315.882**

Software Options

MVC-CT-PTZ License for PTZs
Camera Trainer license for Intelligent Video Analytics 7.10 on PTZ cameras.
Free-of-charge software module.
Order number **MVC-CT-PTZ | F.01U.365.079**

MVS-FCOM-PRCL License key for serial protocol
Serial Protocol Software License (e-license) for IP Cameras
Order number **MVS-FCOM-PRCL | F.01U.314.101**

MVS-FNTCIP NTCIP for moving cameras
NTCIP license for moving cameras
Available in NAM region only.
Order number **MVS-FNTCIP | F.01U.329.682**

Services

EWE-AD7IIP-IW 12 mths full wrty ext AD 7*00i Series
12 months warranty extension
Order number **EWE-AD7IIP-IW | F.01U.382.507**

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